# SCIENTIFIC AMERICAN.

THE ADVOCATE OF INDUSTRY AND ENTERPRISE, AND JOURNAL OF MECHANICAL AND OTHER IMPROVEMENTS.

VOLUME I.] NEW-YORK, THURSDAY, JUNE 18, 1846. [NUMBER 39.]

THE SCIENTIFIC AMERICAN,
PUBLISHED EVERY THURSDAY MORNING, AT THE
SUN BUILDINGS,
—Entrance 128 Fulton st., and 89 Nassau st.—
ALSO, AT NO. 13 COURT ST., BOSTON, AND NO. 29 ARCADE, PHILADELPHIA.
(The Principal Office being at New York,)

By RUFUS PORTER.

Each number of this paper is furnished with from two to five ORIGINAL ENGRAVINGS, many of them elegant, and illustrative of NEW INVENTIONS, SCIENTIFIC PRINCIPLES, and CURIOSITIES; and contains as much Interesting Intelligence as six ordinary daily papers, consisting of notices of the progress of Mechanical and other Scientific Improvements,—American and Foreign Inventions Catalogues of American Patents,—Scientific Essays, illustrative of the principles of the Sciences of MECHANICS, CHEMISTRY, and ARCHITECTURE;—Instruction in various Arts and Trades;—Curious Philosophical Expements;—Miscellaneous Intelligence, Poetry and, occasionally, Music.

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TERMS OF ADVERTISING.—For 10 lines, or less, 50 cents for the first, and 12 1-2 cents for every subsequent nsertion.


### Rhymes Erratic,

Now I should like to write a rhyme or two,
If just for nothing but to hear them jingle
Like hustling coppers in a cowhide shoe,
Or flinging shot against a hemlock shingle,
Or boots that squeak when marching to your pew
Far up a Church—but it's no use to single
These similes from out the thousands chiming
Exactly with the music of my rhyming.

This writing, now, would be extremely easy,
Were't not that one must have a subject in it:
But I'm determined—even though a breezy
Opposition spring up in a minute;
Yes! let the storm come, schorchingly or *freezy*—
*Without* a subject for a while to spin it;
At least, with none but such as come and vanish
Without my bidding: so I boldly banish.

All effort at a regular train of thinking,
Which is, as all must know, a dreadful bore;
It keeps one scratching at the head and winking,
Or gazing at the fire-place or the floor:
Or sends one, as in Byron's case, to drinking,
While waiting each slow thought to pass the door
Of one's dim-lighted and uncertain brain,
To take it's right position in the train.

Now we have winter, with it's driving snow
And vapory clouds above the dim earth weeping—
The shivering cits adown the dull streets go,
Their ceaseless song about "the times" unkeeping,
And plumes and silks and ribbnos make a show,
On their sweet wives and daughters by them sweeping
With splendid sleighs and spans of dashing horses,
While of "hard times" they're wondering what the cause is!

I love to hear the merry sleigh-bells ring,
And o'er the glare the rapid hoof tramp clatter,
While shouting lads in full-lunged chorus sing,
Ah! gruff old Care's so suddenly knocked "flatter,'
As round the corner jovially they swing,
That, for his life, he can't tell what's the matter—
Meantime, away with airy speed they're gliding,
And smack into Irondequoit are sliding!

### A Discourse on Pigs.

I wish I was a pig—for they
Am happy all the live long day,
A wollerin' in the gutter,
Pigs they sees the best o' times,
For they have nothing on their minds
To give them cause to mutter.

I seed a pig not long ago,
A standin' on his hind tip-toe,
And lasses he was lickin':
I know this pig enjoyed himself,
A eatin' ill begotten pelf,
Did he deserve a whippin'?

Pigs never trade in merchandize,
Buy goods on credit, then tell lies,
By bursting on the back;
Their operations are confined,
Solely to their own bristly kind,
In which they never slack.

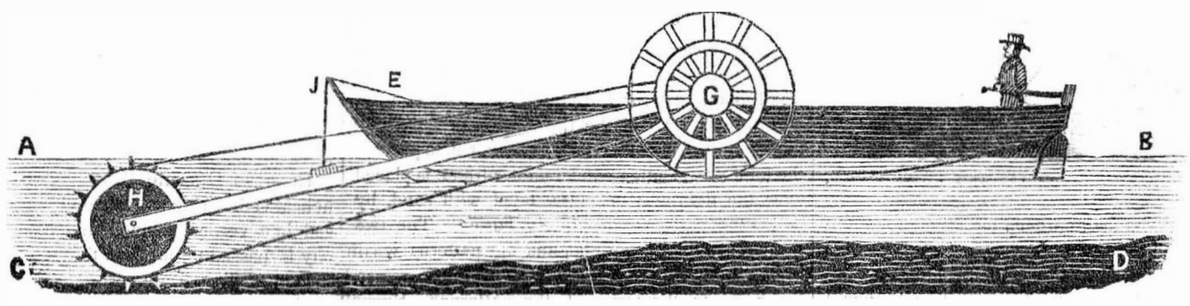
Now don't you wish you was a pig,
When you might sip or take a swig,
And nothing on your mind?
I envies them, the little things,
They walks, they runs, their tails they swings,
And leaves the folks behind. JIMMY.

STANDING EPITOME.—The following poetical epitome of foreign news, from Cruikshank, might well be steryotyped for use, as occasion may require:

Once a week, the upset of a passenger train;
Once a fortnight, a fierce revolution in Spain;
Once a month, a new comet discovered in Kent;
Once a year, an illustrious happy event;
Once in three years, El Kader by Bugeaod subdued,
And the 'temporary' income tax duly renewed.

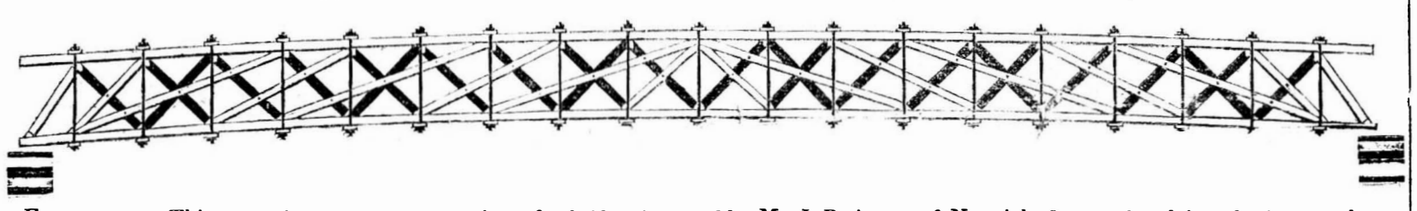
A MODERN GIANT.—Mr. Cornelius Lewis, who died some time since, in Milford, Penn., is supposed to have been the largest man, perhaps, ever known in this country. The following are his dimensions and height, taken by his physician after death.—Heigth, 6 feet; circumference of waist, 6 feet 2 1-2 inches; of body, 8 feet 2 inches; of arm, above elbow, 2 feet 2 inches; of arm below elbow, 1 foot 9 inches; of wrist, 1 foot 3 inches; of thigh, 4 feet 2 inches; of calf of leg, 2 feet 7 inches; of ankle, 1 foot 7 inches. Weight (dead) 675 1-2 lbs.

## THE WATER POWER BOAT.




EXPLANATION ETC.—As there has been considerable curiosity excited by this invention, and many find it difficult to understand or to conceive it possible that the current of a river can be made to propel a boat up stream, we have procured the above engraving, for the purpose of illustrating and explaining the principles of the invention. In this semi-sectional view, A B, represent the surface of the water: C D, the surface of the ground at the bottom of the river: E F, is a boat of ordinary construction, with a pair of paddle-wheels, the axle of which is at G. From thence a pair of arms extend forward to the axle of the wheel H, which is called the "Deep wheel," or "Horse wheel," on account of its draught. The deep wheel has two cylinder heads which serve as belt-wheels; and a belt, or endless chain extends from each of these to the axle of the paddle-wheels, passing over both. The space between the two cylinder heads is open with the exception of a set of iron floats or blades which extend from one to the other, being the most prominent in the centre, and take hold of the ground at the bottom. The frame in which the deep wheel is hung has liberty to rise or fall according to the depth of the water; and has a cross bar at I from which a rope passes up over a pulley, J, and by which the frame is occasionally hoisted up. It will now be understood that when the current of water operates on the floats of the paddle-wheels, the deep wheel is put in motion by means of the belt or endless chain, and the boat is thereby drawn forward. This invention has been proved by actual operation on a small scale, having been made to travel up stream at an elevation of 15 degrees, or five feet to a rod by the force of the current only. There are many rapid streams in which a boat of this construction would be of great utility and convenience.

## AVERY'S COMBINATION BRIDGE.



EPLANATION.—This engraving represents a section of a bridge, invented by Mr. J. P. Avery, of Norwich, Conn., who claims for it several peculiar advantages which are not found in any other bridge in use. It will be understood that this view is simply a longitudinal elevation of the side frame, and that the perpendicular rods are of iron. These rods arearranged in pairs, each pair terminating above and below, in short cross-caps, which add to the main support. One principal peculiarity consists in the irregulrr arrangement of the braces, which adds to the firmness of the combination. The inventor intends to apply for a patent for the improvement as soon as he has completed one bridge of full size to test the utility of the plan.

VALUABLE DISCOVERY—NEW MATERIAL FOR PAPER.—A discovery has been made by the good citizens of Worcester, that promises to be of considerable utility in the art of paper making. The Worcester Spy says,—"On the borders of Bell-pond, whence the new acqueduct for supplying this village with water is now being constructed, is a tract of some three or four acres, which has usually exhibited the appearance of a meadow on the level of the water of the pond, and slightly covered with vegetation. If walked upon, it would shake for some distance around, as if it were a mere accumulation of vegetable matter, floating on the surface of the pond. Having been drawn down several feet, by an excavation at the outlet, for the purpose of cleaning it out, preparatory to the construction of the acqueduct, this tract, of which we have been speaking. is found to consist of a fibrous vegetable matter, extending many feet deep. When cut and taken out, it is of a light grey color, and very much resembles a sponge when saturated with water.—After being dried it appears like hair, or perhaps more like tow matted together. It has been tried and found to make excellent wrapping paper, and it is believed it might be worked, to some extent, into writing and printing paper. We visited the place yesterday, and found laborers employed in cutting it out for the paper makers. This material is undoubtedly, the fibrous part of water mosses which have been growing at the surface, and gradually sinking and accumulating for ages.

THREE INNOCENT MEN HANGED.—At a late meeting, Mr. O'Connell, M. P., made the following appalling statement; 'I defended,' said the hon. gentleman, 'three brothers named Cunningham, within the last three years; they were charged with murder. The evidence was most unsatisfactory, but the Judge had a leaning for the Crown prosecution, and almost compelled the jury to return a verdict of guilty. I sat at my window as they returned to the jail after sentence of death was passed upon them. A strong military guard took them back, who had strict orders not to permit any communication betwixt them and the people; but their mother was there, who, armed with a strength which her state imparted, broke the guard that was strong enough to resist any male force. I saw her clasp her eldest son, aged 22; I saw her embracing her second son, aged 20; and I saw her fainting as she clung to her youngest son, aged 18; and I ask what could compensate her for such agony? *They were executed, and they were innocent.*'—*Irish paper.*

A BOLD FELLOW.—Frederic the Great, after a very terrible engagement, asked his officers 'who behaved the most intrepidly during the contest?' The preference was unanimously given to himself. 'You are all mistaken,' replied the king, 'the boldest fellow was a fifer, whom I passed twenty times during the engagement, and he did not cease or vary a note the whole time.'

BEESWAX.—The neatest way to separate beeswax from the comb, is, to tie it in a piece of linen or woollen cloth or bag, with a pebble or two to keep it from floating; place it in a kettle of cold water, which is hung over the fire; as the water heats, the wax melts and rises to the surface, while all the impurities remain in the bag.

OLD AND NEW STYLE.—The Julian year, introduced by Julius Cesar, 45 years before the birth of Christ, made every fourth year, without exception, a leap year. This, however, was an over correction; for it supposed the length of the tropical year, to be 365 1-2 days, which is too great, and induces on error of seven days in 900 years. Accordingly, as early as the year 1414, it was perceived that the equinoxes were gradually moving from the 21st of March and September, where they ought always to have falen had the Julian year been exact. A new reform of the calendar was thus required; and it took place under the Popedom of Gregory XIII, by the omission of ten nominal days after the fourth of October, 1582, so that the next day was called the 15th and not the 5th. This change was immediately adopted in all Roman Catholic countries, but tardily in the countries of Protestantism. In England, the change of style, as it was called, took place after the 2d day of September, 1752, eleven nominal days being then struck out: so that the last day of Old Style being the 2d, the first of the New Style, (the next day) was called the 14th instead of the 3d. The same legislative enactment which established the Gregorian year in England in 1752, shortened the preceding year, 1751, by a full quarter. Previous to that time the year was held to begin with the 25th of March, and the year 1751 accordingly did so; but that year was not suffered to run out, being supplanted on the first of January by the year 1752, which it was enacted should commence on that day. Russia is now the only country in Europe, in which the old style is still adhered to, and the difference between the other European and Russian dates amounts, at present, to about two weeks.

BLUSHING.—We love to see the rosy hue mounting over the neck and face of a beautiful woman; it shadows forth, delicately and softly, the gentle feelings of her soul. It is the evidence of timidity, which is lovely in woman. Out upon your malicious mind—out upon your rough, sturdy genius; we prefer the reed to the ash—ivy to oak—woman's natural element is retirement; her home, the domestic circle. Unfit by nature to buffet with the world's waves, of mingle in its strife, she lives dependent upon a stronger spirit, and repays in kindness and gentleness that which she receives in protection and support. We cannot bear a woman who never blushes: the steady, cold, calm eye, has no charm for us; there is a beauty and gentleness in the downcast look, starting tear, and warm blush, that defies comparison, even with the loveliest of the haughty. Those who endeavor to curb and restrain this feeling, thinking it a weakness, err strangely in their ideas: let it alone; there is no deformity in the indulgence.—*Ex. pa.*

A GOOD REASON.—A few days since, the Grand Jury ignored a bill against a huge negro, for stealing chickens, and before discharging him from custody, the Judge bade him stand up, and, after a severe reprimand, he concluded as follows—'You may go now, John, but (shaking his finger at him) let me warn you never to appear here again."—John, with delight beaming from his big white eyes, and with a broad grin, displaying a row of beautiful ivory, replied:—'I wouldn't bin here dis time, Judge, only de Constable fotch me!'

ACCIDENT TO THE BALTIMORE TELEGRAPH LINE.—During a severe thunder-storm, about 4 o'clock on Thursday afternoon, a tree was struck by lightning on the line of the Baltimore railroad, near the gunpowder water station, just as the train of cars for Philadelphia was put in motion. The tree fell, but was held up from the track by the strong telegraphic wires, which were not broken, though the whole weight of the tree came upon it. To clear the track so as to allow the train to pass, it was necessary to cut the wire. When this was accomplished, the branches of the tree were removed and the train passed on without much delay. It was a narrow escape for the train, as the tree fell but a few rods in advance of the engine.

IRON WORKS.—Messrs, Simon Cameron, Lauman, Welch & Brown, purchased a large tract of land, in the immediate neighborhood of Columbia, in this county, on which they intend to erect one or more anthracite furnaces of the largest class, when they will proceed to manufacture pig metal on an extensive scale. Messrs. Pancoast, Ridgway, & Comly, of Philadelphia, have purchased the ore bank at the mouth of the Conestoga, and intend commencing, immediately, the erection of a large anthracite furnace. They also contemplate the erection of a rolling mill on the same locality.—*Lancaster Examiner.*

THE WHITE PINE.—The white pine is the palm tree of the north. In some places they grow to an immense magnitude, and are well calculated to make 'the mast of some tall admiral.' Cox, in his 'Adventures on the Columbia River,' relates that near the fort at the mouth of that stream, he measured a white pine tree which was forty-six feet in circumference. The trunk measured about one hundred and fifty feet from the branches, and the whole height was not less than *three hundred feet!* This tree was called by traders, 'Roix de Pins,' King of Pines. Mr. Cox afterwards saw one of greater dimensions, the circumference of whose trunk was *fifty-seven feet*, and the height to the first branch, *two hundred and sixteen feet.*

PHENOMENON IN HORTICULTURE.—The editor of the Anti-Slavery Standard, relates an instance of engrafting a rose bush on a barberry stalk. The graft grew thriftily and blossomed, producing roses of the ordinary size, but which instead of being white, according to the original bush, were of that delicate yellow which characterizes the barberry blossoms. The arrangement of the bush, too, changed its character, the branches assuming the curving form of those of the barberry.

THE IRON REGION OF OHIO.—There are twenty-three blast furnaces in Sciota and Lawrence counties, Ohio, which will make, this year, 37,450 tons of pig, which, at $30 per ton, the current market price, amounts to $1,123,200. Each furnace employs on an average, 100 hands.

MILEAGE.—In Congress, the mileage agreed to, is forty cents a mile for 200 miles travel, and thirty-five cents for 300 miles, and 30, 25, and 20 cents, for greater relative distances, but no man to receive more than $750 for mileage during any one session of Congress.

## ALPHABETICAL LIST OF PATENTEES FOR 1845.

Gershom L. Ackerman, Troy, N. Y.
Oliver Allen, Norwich Conn.
Ethan Allen, Norwich, Conn.
John Allen, Cincinnati, Ohio.
Jacob Alrichs, Wilmington, Del.
Solomon Anderson, Garrettsville, N. J.
Alexander Anderson, Paterson, N. J.
Joseph E. Andrews, Barton, Mass.
John Andrews, Belleville, N. J.
Jacob Arndt, Wheeling, Va.
Charles Arthur, Keeseville, N. Y.
Anson Atwood, Troy, N. Y.
Chadiah Aylesworth, Bainbridge, N. Y.
Charles Babcock, East Haddam, Ct.
Edward Badlam, Potsdam, N. Y.
Arnon Baker, Western, N. Y.
J. W. Baker, and Wm. W. Riley, Columbus, Ohio.
Baldamus and Siemens, Berlin, Prussia.
E. Ball, Greentown, Ohio.
Jonathan Ball, New York.
John Ball, Greentown, Ohio.
Thomas H. Barlow, Lexington, K. Y.
Daniel Barnum, Bridgeport, Ct.
Ebenezer Barrow, New York.
Nelson Barlett, Belvidere, Ill.
Wm. Baxter, Paterson, N. J.
Samuel H. Bean, Philadelphia, Pa.
William Bebee, New York.
Charles Bennett, Pepperell, Mass.
Phineas Bennett, New York.
James H. Bennett, East Bennington, Vt.
Benteen and Zimmerman, Petersburg, Va.
Benjamin S. Benson, Harford county, Md.
Charles F. Beverly, Salem, Ohio.
Benjamin Bicknell, Cincinnati, Ohio.
Erastus B. Bigelow, Boston, Mass.
G. W. Billings and John Harrison, Glasgow, Mo.
William Bishop, Coventry Ct.
Levi Bissell, Brooklyn, N. Y.
James Black, Williamsport, Pa.
William Blake, Boston, Mass.
Philos, W., Eli and John A. Blake, New Haven Ct.
Israel Blanchard, Troy N. Y.
John Bliss and Frederick Creighton, New York.
James Bogardus, New York.
Abraham A. Bogardus, Newburgh, N. Y.
Alexander Boyd, Providence, R. I.
Rufus and Henry Brackett, Woburn, Mass.
Nathan Brand, Leonardsville, N. Y.
Joseph D. Briggs, Saratoga, N. Y.
Cornelius Briggs, Roxbury, Mass.
John C. Briggs, Saratoga, N. Y.
James Briggs, New York.
S. Brooks and W. N. Clark, Chester, Conn.
James S. O. Brooks, Kanawha, Va.
Benjamin Brown, Burlington, Vt.
James Brown, Newark, N. J.
David Bruce, Williamsburg, N. Y.
James Brundred, Paterson, N. J.
William Bullock, Jersey City, N. J.
S. W. Bullock, Williamsburg, N. Y.
Thomas Burrall, Geneva, N. Y.
Enoch Burt, Winchester, Conn.
William Butcher, Philadelphia.
Nathan Buttrick, jr., Chelmsford, Mass.
Evans Cadwallader, Pittsburg, Pa.
Robert Caldwell, Montavello, Ala.
Ethan Campbell, New York.
Aaron B. Carpenter, New York.
Eleazer Carver, Bridgwater, Mass.
Isaac L. Chapman, New York.
Abner Chapman, Fort Miller Bridge, N. Y.
Ezra L. Chapman, Chester Conn.
Wm. H. Chase, Pensacola, Florida.
Samuel Cheney, Cleaveland, Ohio.
G. W. Cherry, assignor to E. L. Walker.
G. W. Cherry, Alexandria, D. C.
Gardner Chilson, Boston, Mass.
Jones, Low, & Chollar Troy. N. Y.
Peter. J. Chester, Schenectady, N. Y.
Edward Clark, Brooklyn, N. Y.
William N. Clark, Chester, Conn.
William Neale Clay, England.
Geo. C. and E. F. Close, Port Chester, Conn.
Robert R. Colvin, Columbia, Pa.
William T. Clough, Jersey City, N J.
William Cobb, Damascoville, Ohio.
John Cochrane, Baltimore, Md.
James B. Coffin, Mohicanville, Ohio.
Ezra Coleman, Philadelphia, Pa.
Ephrahim Colvin, North Granville, N Y.
J C Colt, New York.
Aaron Colton, Pittsfield, Vt.,
Robert Cummings, Lima Ind.
Anthony Cooley, Kalamazoo, Mich.
Peter Cooper, New York.
Jno D Cornelius, and Jas Mott. Westbury, N J.
Ezra Cornell, Ithaca, N Y.
Benjamin F Coston, Washington, D C.
Alanson Crane, Lowell, Mass.
Joseph T Craddock, Baltimore, Md.
T W Cross, Boston Mass.
Robert P Cunningham, Abington, Conn.
F C Curtis, Columbia, S C.
William M C Cushman, Albany, N Y.
James Dane, West Derby, Vt.
James Davis, jr, Gloucester, Mass.
A R Davis, Rochester, N Y.
Jane A Davis, administratrix of Heney G Davis, deceased, Clark Co, Ala.
John T Davy, Troy, N Y.
Day, Tyer, & Helm, New Brunswick N J.
Horace H Day, Jersey City, N J.
J De Bretton, New Orleans, La.
Abraham Decker, Fairfield Co Ohio.
Richard Deering, senior, Louisville, Ky.
Charles Louis Derosne, Paris, France.
John C Dexter, Ionia, Michigan.
Joseph Dixon, Boston, Mass.
Almon Downs, St Clair Michigan.
Simon W Draper, Boston, Mass.
William Dripps, Dunningsville, Pa.
William Duff, Baltimore, Baltimore, Md.
Francis Duplessis, Plaquemines, La.

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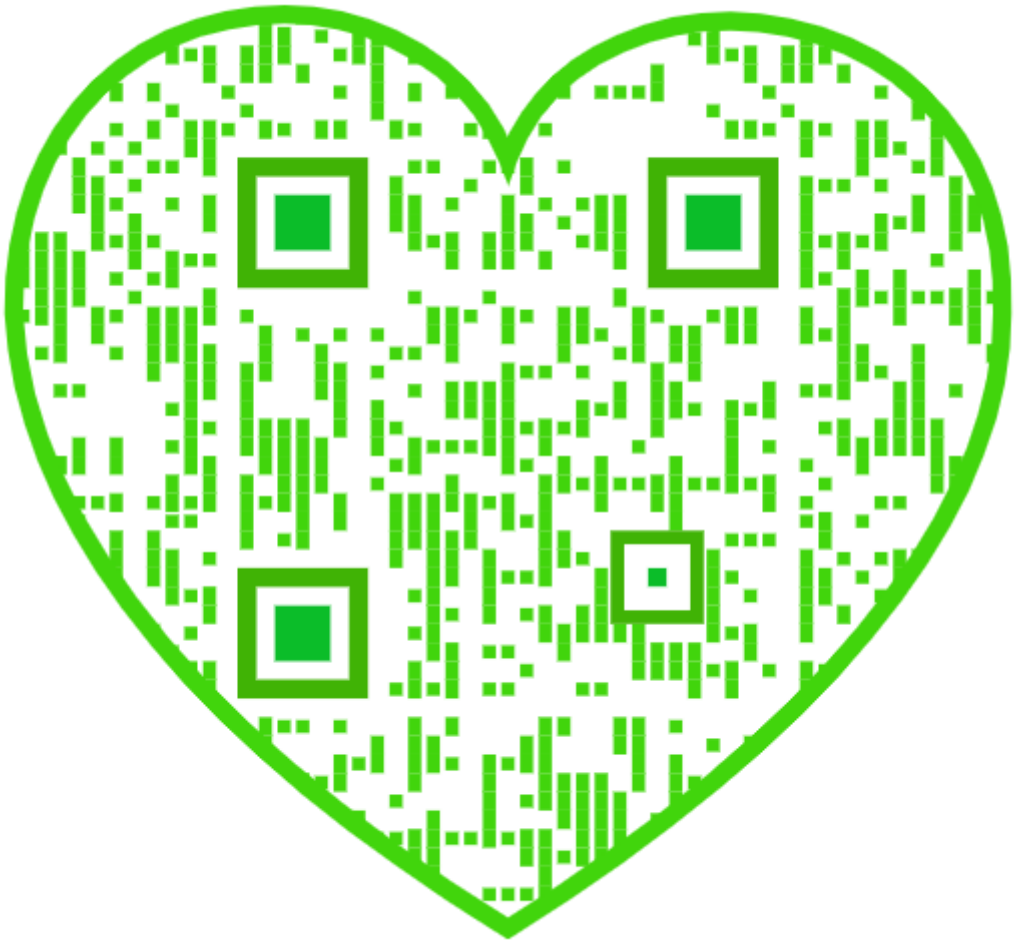
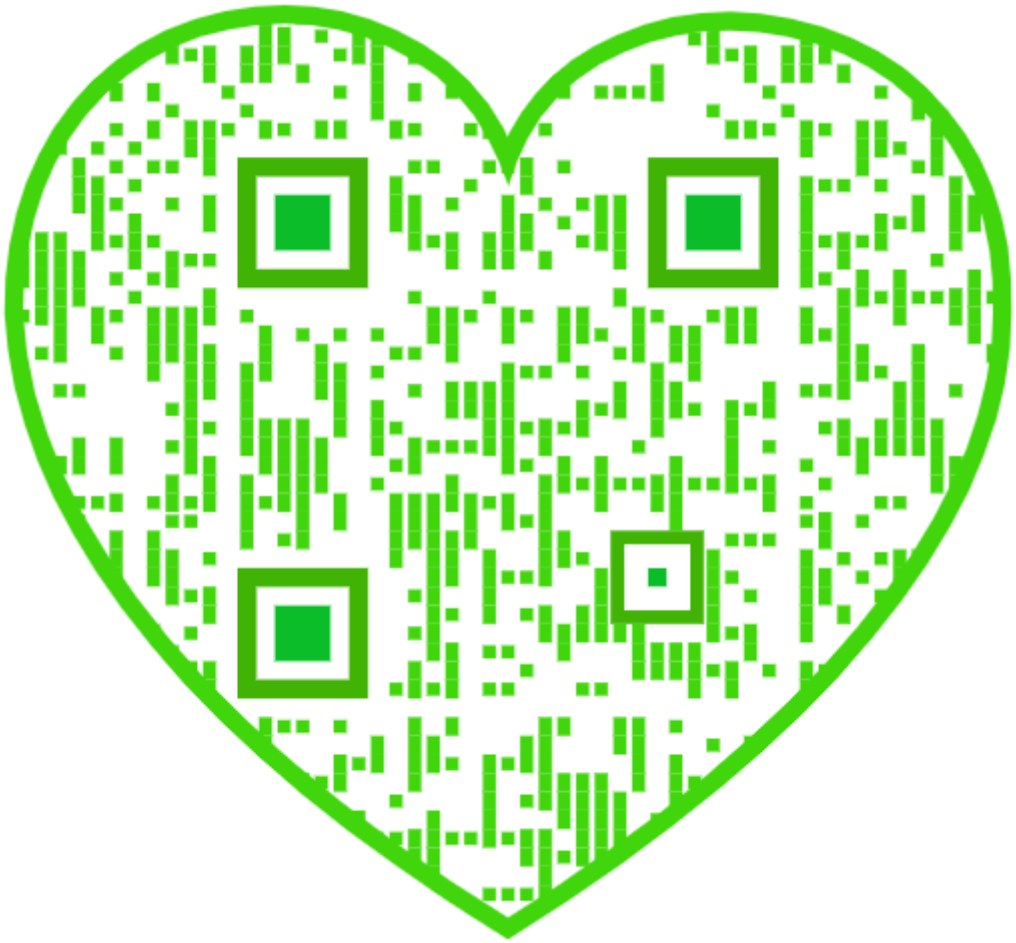




SCIENTIFIC AMERICAN

NEW-YORK, THURSDAY, JUNE 18.

Drawings of machinery, engraving on wood, and lithographic drawings, neatly executed, at the lowest prices, at this office.

POST MASTERS—Who receive this paper, will confer a special favor by mentioning the subject occasionally to scientific mechanics.

## Our Own Affairs.

It was intimated in our last number that on account of our unavoidable absence on imperative business—and our readers may be aware of the impossibility of procuring a substitute who could furnish the scientific materials, drawings, engravings, descriptions, and other editorials in our ordinary uniform style—to say nothing of the temporary absence of our foreman printer,—this number would be deferred till the present date. Had this volume been commenced with the year, we should have felt more tenacious in keeping up with time; but the case being otherwise, we presume that none of our patrons will find any occasion of regret for the brief suspension. That the depth of our business engagements may be appreciated, we may here remark that, in addition to the care of editing, publishing and circulating this paper, although we have no predilection for a Caleb-Quotemical style of business, we are constrained to superintend the construction of several newly invented machines, in different shops; have many calls to examine and express our opinions on new inventions which are being introduced in this city; have many specifications to write, and drawings to dictate for the Patent Office, besides attending to an extensive correspondence on subjects of science and enterpise, in addition to a large share of conversation with the most agreeable and intelligent transient company. In this way we are kept constantly awake (except when asleep,) and find but little danger of rusting for want of use, for the present.

BACK NUMBERS.—We are well aware that there is in to the minds of some, an apparent mystery with regard to the early numbers of this paper; wherefore we take this occasion to give a more particular explanation. We have repeatedly, heretofore, expressed an intention to reprint such numbers as were wanting; and we proceeded so far as to get several new engravings for that purpose: but having unsuspectedly, at several times, received packages of back numbers returned from our local agents, we have been enabled to supply many with full setts; and have consequently deferred the reprinting till we could more accurately ascertain the nnmbers wanting. We can confidently assure our subscribers, however, that those whose sets are not complete, will be supplied before the close of the volume. We have at present on hand all but five different numbers; and these five we shall soon reprint.

THE TRAVELLING BALLOON.—Contrary to our confident and reasonable expectations, our circulation has hitherto been insufficient to pay the expense of establishing the paper, (including the amount of loss of materials by fire) and consequently we have not been able to complete the arrangements for constructing a travelling balloon the present season, though we see no reason to doubt its ultimate success. We therefore repeat the proposition to furnish this paper six months to all the original subscribers, in exchange for their title to an interest in the aerial navigation scheme. Those who are disposed to accept this proposition, will please to inform us thereof early as convenient;—others will still retain their claim and title to hold an interest in the enterprise whenever it shall be put forward.

GALVANIC ENGINE.—We alluded to this subject a few weeks since, and are now happy to be able to say that all experiments on the subject thus far have proved completely successful; and that we shall probably be ready to receive orders, for them in two or three weeks. The galvanic engine is precisely what is wanted by thousands of mechanics and farmers, and will furnish a more perfectly convenient and even available power than has ever been introduced, horse-powers and water-power not excepted. The engine complete is enclosed in a neatly finished, polished and ornamented mahogany trunk, two feet in length by one in breadth, and not so heavy but that a person may conveniently carry it by one hand. It is kept in constant readiness for action, with no other attention than two minutes work once in two days; and by the simple act of turning a key, or depressing a spring, the machine will give forth a steady, constant power, equal to the labor of a man at a crank, and sufficient to drive a lathe, small circular saw, grindstone, printing press, bits, drills, &c, or propel a light boat on the water; and the entire expense of maintaining it will not vary much from *ten cents per day*. These engines will be furnished for $100 each, and warranted to keep in repair, or to be repaired gratis, for one year.

STRAWBERRIES.—Some of our cotemporaries are boasting of presents of strawberries measuring 3 to 4 inches in circumference. The most interesting strawberry-view we have ever seen, was recently at one of the Baltimore markets, in which a vender having three or four bushels of the large sized berries, managed to spread them over a large heap of some other material, so as to represent 25 to 30 bushels of the delicious fruit in one promiscuous heap.

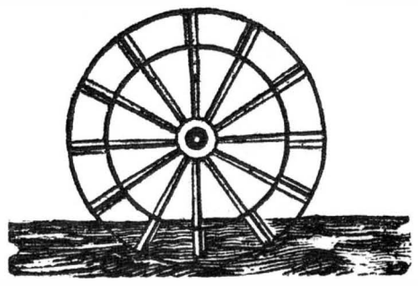
ALARMING.—We learn from the Boston Chronotype, that Louis Philippe has given an order for a dozen or more of the heads of our most distinguished statesmen. Mr. Healy, the American *portrait painter* has undertaken the execution of the order.

## The Best News of the week.

THE OREGON QUESTION.—All the gloomy apprehensions and forebodings of a war between this country and England appeared to be suddenly dissipated, on the arrival of the telegraphic intelligence from Washington on Saturday morning.—This news, which has been subsequently confirmed, was substantially, that the U.S. Senate had on Friday, by a vote of 38 to 12 decided to accept—or advise the President to accept—of the terms proposed as the ultimatum of the British Government. This treaty is as favorable to American interests as any peaceable and reasonable man could expect; it decides to extend to the Pacific Ocean the same line of boundary that now divides the territories of the two governments this side of the Rocky Mountains,—the 49th degree—and allows to England the privilege of the navigation of the Columbia during the extension of the charter of the Hudson's Bay Company, or about seventeen years; and the English are to receive a compensation for the buildings already erected on the American side of the line.

## Science of Mechanics.

(Continued from No. 38.)



PROPELLING WHEELS.—We have never known, in any one season, so many attempts to improve the mode, or to introduce improved modes of propelling vessels, as within the present year. It is evident that there never has yet been very important improvements made on Fulton's original and rational method,—the simple paddle wheel. It is well known and generally admitted, that with this wheel there is some loss of power occasioned by vertical resistance, in the dipping or plunging the paddles into the water and lifting them out of it; and the grand desideratum with inventors seems to have been in general, to avoid this loss of power, which does not ordinarily exceed fifteen per cent; although some have announced that by their favorite methods, an advantage of fifty or one hundred per cent was gained over the common paddle wheel. We cannot understand why inventors have so generally overlooked another disadvantage of much greater magnitude than the one complained of: that is, the receding or escaping of the water to the right and left, and vertically, from the pressure of the buckets or paddles; by which they are deprived of much of that acqueous resistance, on which the paddle depends for its effect on the boat or vessel. The principal loss of power, when applied to a paddle wheel consists in the motion of the paddle when in the water: for If the paddles while immersed, have as great a motion in one direction as the vessel has in the other, *it is plain* that one-half of the power is lost. There are but few mechanics who can comprehend, or will admit this, however; but we shall make it plain by this demonstration:—If the resistance of the water was so permanent that the paddles had no motion at all while in the water, the wheel would not be required to revolve only half as often to produce an equal velocity in the vessel. Therefore it is plain that at least double the power is required to propel a vessel with a specific velocity, when the paddle moves with an equal velocity in the water, as when the resistance is permanent. Therefore the grand desideratum is in reality, the increasing of this resistance. With this view, several different people at different times, have made the experiment of arranging a series of paddles or float boards, on two endless chains which pass over two drums or pulleys. By this plan several paddle boards are equally immersed at the same time. Observation of the operation however, readily developes the fact that only one of the paddles can be useful at the same time; for as soon as either one of them dips it puts in motion a quantity of water, and then floats along with the water without any further effect until dipped again. Other plans have been tried in other cases, but none of them appear so rational as that of increasing the resistance, by preventing the escape of the water vertically and laterally. If a shovel or spoon is used as a paddle, it is found that there is a much greater resistance when placed with the concave side foremost, than when the reverse or convex side is forward. In fact the hollow or dishing paddle will meet more resistance than an equal plain surface, which can be accounted for only on the principle of preventing the ready escape of the water from before it. There is, or might be, a much greater advantage derived from enlarging the area of the paddle boards, than can be from the popular custom of increasing the diameter of the wheel; and it is impossible that experiment should justify the policy of making the paddles so small in proportion to the diameter of the wheels, as those of the Atlantic Steam Ships.—We have some improvements to propose, describe, and demonstrate, but must defer them till next week.

(To be continued.)

*Blunders.*—There is no one circumstance in connection with the publication of a newspaper, more provoking, perplexing, and trying to patience, than the uncouth typographical errors, which, notwithstanding the utmost vigilance, will sometimes escape the notice of the proof reader, till the paper has gone to press, and is spread before the public. Such was the case in our last number, in the caption of the 5th column of the 3d page, in which the question 'What is Truth,' was conspicuously written in the copy, but instead of being thus printed, it was made to read 'What is Faith:' but such an unreasonable error in such a place not being anticitended, it escaped notice till the papers were printed.

## Arts and Trades.

IRON CASTING.—Ordinary cast-iron melts at 2700 degrees, Fahrenh., at which heat it flows freely, and is readily cast into almost any form and figure that can be designed: but if it be greatly overheated, it either burns, or becomes oxydized, and nearly worthless. An ordinary furnace for the melting of iron, is made in a conical form, and is arranged to be supplied with a strong blast of air at the bottom. The fire is first commenced with wood, and afterward, the furnace is supplied with mineral coal; and when the furnace has become sufficiently hot, the pigs of iron to be melted, are placed thereon, together with a few oyster shells, which serve as a flux, and aid the fusion of the iron. When the iron is melted, it is drawn off through an aperature at the bottom, (which aperture is closed occasionally by a ball of moist clay,) and the liquid iron being received into ladles, is poured from them into moulds prepared to receive it. The ladles are made of iron and lined with clay. The moulds are formed in, and of, a peculiar kind of sand, which, when a little moist, has the property of adhesiveness, and being pressed into any form, will retain that form with sufficient tenacity to support the weight and pressure of ordinary castings. The moulds are formed by means of patterns, which are usually made of wood, and are of the precise shapes, forms, and sizes, that are intended for the castings. The process of moulding, or forming the required moulds, is various, according to the shape of the cast required. The moulding sand is usually pressed into square boxes, or frames, which are termed flasks. One of these boxes being filled with the sand, the small plain patterns are embedded into it; after which, the surface of the sand being prepared, by having a little fine charcoal sifted over it, to prevent the adhesion of other sand, another frame is placed over the first, and this also, filled with sand, by which the patterns are entirely buried. The two frames are then separated, and the patterns withdrawn from the sand, leaving cavities in the sand, according to the forms of the patterns. Small channels are made from each mould, to some point of the surface, into which the iron may be poured, after the two frames are placed together and secured. When very fine and smooth castings are required, the moulds, after being formed, have a little fine flour and charcoal sifted on them through a flannel, or fine cotton cloth: some, however, prefer finely ground plumbago, for this purpose. When hollow cylinders, or tubing, is to be cast, each mould must have a *core*, made of pressed, or baked sand, which must form the hollow in the casting. Patterns are frequently composed of two or more parts, which parts are but slightly dowelled together, that the parts may separate, when the flask is opened for the purpose of drawing the pattern from the sand.—New iron is generally much the softest, and on that account, is preferred for most purposes, although not so strong as old iron, or that which has often been melted. It is a remarkable fact, that new soft iron, contains a considerable quantity of carbon, and its fracture is of a dull brown; but by being several times melted over, it becomes more and more refined, harder, brighter, and more difficult of fusion. Another remarkable, and as yet unaccountable, circumstance is, that any brass work, which is exposed to the vapors arising from the heated iron and sand, in an iron foundry, becomes in a few months, brittle as clay, and perfectly useless, but without any external appearance of oxydation. A great variety of fine and delicate jewelry, and other ornaments, have been made of cast iron, which by means of the recently acquired electro process, become permanently beautiful.

IMPROVEMENTS IN BLAKSMITHING.—Sawing heated iron or steel, is not known or thought of by blacksmiths; and when several forks or branches are to be formed from one stock, even if the branches are required to remain eventually, nearly in contact, and parallel to each other, the usual method is to split the end of the iron with an awkward cold-chissel, thereby deforming the edges of each branch; on which account, the branches must be bent asunder for the purpose of hammering, squaring and shaping the edges of each; after which they are brought together as well as may be, usually retaining a roughness of form, if not a deficiency of size and strength, near the juncture of the branches. Instead of this tedious process, the iron when heated may be put into a vise, and the end may be readily slit with a suitable saw, which would save much labor in hammering and filing.—A saw for this purpose should be made thicker at the edge than at the back, and with uniform teeth about one twelfth of an inch apart. The saw when used, must be often dipped in water, to prevent its becoming too much heated. There is also a method of sawing or cutting hardened steel, which is not so generally known as it should be. A circular piece of common thin iron plate, or sheet iron, being adjusted in a lathe, or by other means put into a violent rotary motion, will readily cut off a file, a cutting tool, or tempered steel spring, without drawing or reducing the temper. There is much mystery in the wonderful effect of this buz, and its cutting property is attributed to electricity. It answers a very convenient purpose however, when the shape and form of articles are required to be altered, without affecting their temper. It furnishes a convenient method for cutting teeth to large saws, but is objectionable on account of the newly cut surfaces being left so hard that they cannot be readily filed by a common file. Connected with the subject of 'misterious effects,' it may be stated that a bar of iron of almost any size, may be instantly sundered while hot, by the simple application of a piece of common roll-brimstone. A knowledge of this fact will be useful, when some piece of iron work is required to be severed, but which, as is sometimes the case, is so constructed and situated that no ordinary chissel or cutting tool can be brought to apply. Holes may be instantly perforated through bars or plates of heated iron, by the application of pointed pieces of brimstone. This phenomenon is curious although it seldom affords much practical utility.

## Late Foreign News.

The Steam-ship Great Western arrived on Monday, 15 days from Liverpool. Of the news by this arrival we have only gleaned a few brief items.

Her Majesty the Queen added a princess to the flourishing 'Royal Family,' on the 25th ult.

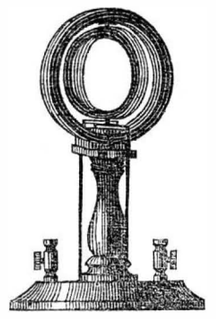
The Cambria arrived out in twelve days with the news of the commencement of Mexican hostilities, which had the effect to advance the prices of American produce.

The Great Western is said to have brought despatches for Government on the subject of the Oregon notice, an which are believed to be conciliatory.

Perhaps the most important news, in a mercantile view, by this arrival, is that of the progress of the Corn Bill. On Monday the 23d ult., this bill was read for the first time in the House of Peers, and the second reading, after a debate of three nights, was passed by a majority of *forty-seven*. There appears no doubt that this bill will soon become law, and will materially advance the trade of this country.

## Galvanism.

Continued from No. 38.



ELECTRO DINAMIC REVOLVING RING.—When a helical coil or ring of insulated copper wire, is placed in a vertical position, and a current of electricity is passed through it, the two vertical sides of the ring will indicate north and south polarity according to the direction of the current. When a coil or helical ring is mounted vertically upon a post, and a second ring of smaller size is placed within the first, and mounted on a delicate vertical axle, as shown in the cut, there are certain attractions and repulsions manifested between the sides of the two rings, according to the directions of the respective currents of electric fluid passing through them. When the electric current passes in the same direction through both rings, a mutual repulsion is exerted between the sides of the first ring and those of the second, and each side of the second, on revoling, is attracted towards the opposite side of the first or stationary coil. The axle of the revolving ring being furnished with a pole-changer, as described in No. 35, the direction of the current, when the revolving ring is in motion, becomes reversed at the instant this ring comes into a position parallel to that of the first; and the revolving sides being carried forward partly by their momentum, and almost constantly attracted forward by the sides of the stationary ring, a continuous and rapid motion is maintained, although with but very little power. This machine is seldom used for any other purpose than to illustrate the peculiar properties of electricity, though it might answer the purpose of breaking the current for an electrotome. There are a variety of revolving machines of different constructions, in occasional use; but all the known principles of electro propulsion have been illustrated in the examples given in the several numbers of this series. The present number may probably close the subject of Galvanism; but we shall supply its place by a few articles on the subject of magneto-electricity, thermo-electricity, and sundry applications of electricity, in future numbers.

## The Magnetic Telegraph.

The line complete between this city (New York) and Washington has been several days in operation, and furnishes the gratification of early news to many thousands of those who would not willingly contribute either money or an encouraging word to the scientific enterprise. In some instances communications have been made direct from Washington to Philadelphia, a distance of 190 miles, by a continuous wire, and familiar conversation was held between gentlemen at that distance. This is the greatest distance which a direct communication has been attempted. In one instance a President's message has been transmitted to Baltimore entire. But in no instance has the utility of the telegraph been made more conspicuous than on the recent arrival of the Great Western, when the U. S. Consul, Gen. Armstrong, who arrived in the G. W., proceeded immediately to the telegraphic office, and communicated with the President of the United Stares (at a distance of 280 miles) on the subject of his unexpected arrival and important business with Government.

Mr. Kendall has made a proposition to the Government to encourage the extension of the magnetic telegraph to New Orleans; and we have subsequently learned that the extension of a line to Mobile has been authorised, and that it is expected to be completed in August,—Government aiding by a loan of $300,000 to the company.

Mr. Rielly is now giving his attention to the great Western line, from the Atlantic to the Ohio, and hopes to complete the line in September.

The erection of a line between Boston and Portland, Me., is in progress. The delay in completing the line between this city and Boston is not accounted for.

The Legislature of Connecticut have passed an act for the protection of the telegraph within that State, and imposing a penalty of a heavy fine and imprisonment as any person who shall injure the line.

A project is in motion for extending a submarine line between England and France; but it is well known to many in this country that the plan is utterly impracticable.

A HAUL.—The son of a banker in Baltimore has run away with and married Miss Elliott, daughter of Celeste. She is nineteen years old, and worth $100,000.

## VARIETY

It is expected that at no distant day there will be four commercial towns on Lake Erie, with 50,000 inhabitants each,—Buffalo, Cleveland, Sandusky and Toledo.

The people of many cities and towns in England are making particular exertions for the continuation of friendly feelings and intercourse between that country and the United States.

Some of the leading French journals scout the idea of the interference of either France or England in the affairs between the United States and Mexico. They are evidently correct.

A freight train on the Western railroad brought into Boston last week about twenty tons of silver and copper ore from Lake Superior, and estimated to be worth $350,000.

The population of the city of Lowell, as ascertained by a census recently taken by the school committee, is 28,841. In 1820 less than 50 persons resided on the ground.

A correspondent enquires whether a letter can be said to be *miss*-sent, when forwarded by the *male?* This can only occur when the post-*master* is a young lady.

Seven Revenue Cutters, carrying an aggregate of 35 guns, and 250 men have been ordered to the Rio Grande. Three of the vessels are propelled by steam, and all well supplied.

The amount of wool to be clipped in the United States, in 1846, is estimated at 140,000,000 lbs. The home demand at 110,000,000 lbs., leaving a surplus for export of 30,000,000 lbs.

It is thought the wheat crop in Illinois this year will be nearly ten millions of bushels. Crops of produce in general are reported to be very promising.

A stock company has been formed in France, with a capital of 500,000f., for the destruction of rats and mice. Will not some Yankee send them a cargo of cats on speculation.

Two temperance petitions signed by 6000 persons, of whom 3,800 were ladies, has been forwarded from Portland to the Maine Legislature. The ladies' list measured 59 feet.

No sooner had the news of the capture of Matamoras been received at New Orleans, than a regular line of steamboats was announced to run direct between New Orleans and that city.

A friendly address was lately received at Worcester, Mass., from Worcester, Eng., and it is remarked that of the 600 names signed, two-thirds of them were names familiar in the former place.

A militia captain at New Orleans called out his company, and invited them to volunteer: but as only two offered, he broke his sword and started off to resign his commission to the Governor.

Mr. Webster recently stated in the U. S. Senate, that the expenses of the war department alone, amount to nearly $500,000 per day. How important to secure an early termination of the war.

The number of volunteers already embarked at New Orleans for the Mexican lines, can not be less than 10,000 or 12,000. Muskets and ammunition are furnished in abundance.

The people of Middletown, Conn., and vicinity, are wide awake on the subject of a railroad bridge over the Connecticut near that city. With perseverance they are sure to succeed.

A son of Sir Robert Peel was among the visitors at the White House, Washington, on Wednesday evening of last week. The company is said to have been large and illustrious.

The improved pin machine of Brown and Elton, of Waterbury, Conn., turns out two barrels—or eight millions in number—of pins per day, ready for market.

Some wag has reported that the first American blood shed in the Mexican war, was drawn by a squadron of huge Mexican musquitos which had crossed the Rio Grande.

It is stated in the Toledo (O.) Blade, that a stick of square hewed whitewood, measuring 60 feet in length, 36 inches wide by 28 thick, lies across the river near that town.

The Governor has pardoned Mike Walsh for the remainder of the term of his imprisonment, to enable him to keep the 4th of July, and rejoice over the victories on the Rio Grande.

A Skaneatles paper speaks of some fine specimens of trout recently taken in the lake near that place, measuring three feet in length, and weighing upwards of 17 lbs.

A bill is before Congress for the construction of a Military Road from Fort Howard—Green Bay—to Fort Wilkins, on Lake Superior. It should be made a railroad.

Keep it before the people—that infants when crying, restless, and apparently suffering distress may frequently be relieved and rendered quiet and easy, by a draught of cold water.

Gen. Vega, the Mexican prisoner, is treated with marked attention at New Orleans. He has been visited by the principal officers, and many of the first ladies have been introduced to him.

It is currently reported that the Hon. Cassius M. Clay, the celebrated Kentuckian, is at the head of a company of riflemen, going to fight the Mexicans.

It is supposed that 100,000 volunteers have offered for the Mexican war, and that a war with England would bring out five times that number.

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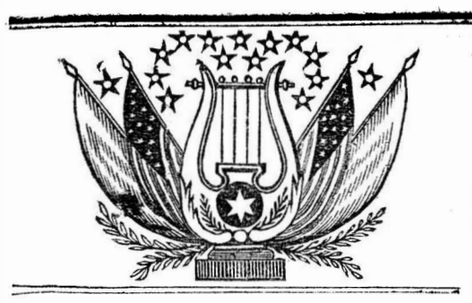


## Flowers.

Day stars ! that ope your eyes with morn to twinkle,
From rainbow galaxies of earth's creation,
And dew drops on her lovely altars sprinkle,
As a libation !

Ye matin worshippers ! who, bending lowly
Before the uprisen sun, God's lidless eye,
Throw from your chalices a sweet and holy
Incense on high.

Ye bright mosaics ! that with storied beauty
The floor of nature's temple tassellate,
What numerous emblems of instructive duty
Your forms create !

'Neath cloistered boughs, each floral bell that swingeth,
And tolls its perfume on the passing air,
Makes sabbath in the fields and ever ringeth
A call to prayer !

Not to the domes, where crumbling arch and column,
Attest the feebleness of mortal hand,
But to that fane most catholic and solemn,
Which God hath planned !

To that cathedral boundless as our wonder
Whose quenchless lamps the sun and moon supply,
Its choir the winds and waves, its organ thunder,
Its dome the sky !

There as in solitude and shade I wander,
Through the lone aisles or stretched upon the sod,
Awed by the silence reverently ponder
The ways of God !

Your voiceless lips, O flowers ! are living preachers,
Each cup a pulpit, and each leaf a book,
Supplying to my fancy numerous teachers,
From loneliest nook !

Floral apostles ! that in dewy splendor,
Weep without sin, and blush without a crime,
Oh may I deeply learn, and ne'er surrender,
Your love sublime !

"Thou wert not, Solomon, in all thy glory,
Arrayed," the lillies cry, "in robes like ours !"
How vain your grandeur ! oh how transitory
Are human flowers !
In the sweet-scented pictures, heavenly artist !
With which thou paintest nature's wide-spread hall,
What a delightful lesson thou impartest,
Of love to all !

Not useless are ye, flowers ! though made for pleasure,
Blooming o'er field and wave by day and night;
From every source your presence bids one treasure
Harmless delight !

Ephemeral sages ! what instructors hoary,
For such a world of thought could furnish scope,
Each fading calyx a "memento mori ;"
Yet fount of hope !

Posthumous glories, angel-like collection,
Upraised from seed or bulb interred in earth,
Ye are to me a type of resurrection,
And second birth.

## Man's Littleness and Dignity.

Those countless orbs that glitter bright,
Above the world, in fadeless light,
That chase away the chilling blight,
And beautify the darksome night,
The glorious sun in dazzling might,
At morning's dawn, or noonday's height,—
Creation's voice reveals to man
The Power and Wisdom of its plan.

This earth, whose thousand beauties gleam
From every hill, and vale, and stream,
When viewed beneath the silvery beam,
Of light, which from the sun, doth stream,
Its variegated prospects seem
Like some enchanting midnight dream—
But *man* how weak, how frail he is,
Compared with such a world as this.

But mark the sparkling gems, that ride
Above the earth, in all their pride,
The sun in splendor shining wide,
Amid the heavens in purple dyed,—
Their glories fade, with MAN beside ;
He has what is to them denied ;
They all are lifeless as the clod,
But he has mind,—a ray from God.

This giant earth may pass away,
The stars so bright may all decay,
The sun no more may gild the day,
The moon may cease to guide our way,
And running brooks and streams to play
Beneath her soft and mellow ray,—
Rolled back to chaos these may be
But MAN shall live eternally.

FRICTION ROLLERS.—There is a popular, and very prevalent error, with regard to the principle of the common friction rollers which are used to avoid the friction of the bearings of grindstones, &c.—The error consists in supposing that the friction is occasioned by the reduction of the motion of the bearings. But this is not the fact, for it has been often proved by experiment, that friction is not increased by the increase of the velocity. But in this case of the rollers, the friction is not in reality reduced, but is rather increased, by the addition of the rollers; and the important advantage gained by them, consists in the difference of leverage.—Supposing the actual resistance of friction, to be two pounds to each bearing: without the rollers, this resistance would be at the periphery of the main shaft; but when the shaft rests on the periphery of four-inch rollars, while the bearings of the rollers are but half an inch in diameter, only one-eight of the resistance which accrues at the periphery of the roller shaft, is actually applied to the periphery of the main shaft, which in this case, would only be one fourth of a pound, instead of two pounds, as in the former instance, although the actual friction is the same.

## Selected Articles.

IRON HOUSES.—A commodious and handsome *iron house* has lately been imported from England into St. Johns, N. B. Why do not the people of our cities take a hint from this and similar cases and build houses and stores that would be safe against fire ? A store, with walls of brick or stone, rafters and beams of iron, a roof and floors and ceilings of iron and tin, would be in no danger of fire without, and very little from fire within. Such stores and houses would cost no more than those built of brick and wood. But as they would last for ages, and need no insurance, the money saved in repairs and insurance, would exceed, in a course of years, the additional capital and the interest upon it.—The best of our houses are built with a most useless and dangerous profusion of wood work.—all the walls now made of wood work and lime, might be made of brick, and all the wooden moulding and wainscotting of rooms might be discarded without loss of beauty, and with great saving of risk. And if wooden beams be still used to support floors and ceilings, why are they not covered with brick or tiles above, and tin, or zinc, or iron, below ? We could with little additional expense, build a house in which every inch of wood used would be covered with something incombustible. The best floors for stores would be plates of rolled iron, laid upon the iron beams. Stronger than any other, they would be incombustible. And fire in merchandize in such stores could be easily controlled ; for firemen would entertain no apprehension from falling walls and roofs, or floors dropping from under them, or rafters tumbling upon their heads. In perfect security, they could carry their hose into every bale, box and cask with water. One great benefit flowing from incombustibility in buildings, would be the abolition of fire insurance. A fire insurance company is no instrument of protection to the community against destruction of property. It saves nothing from conflagration. It merely transfers a loss from one person to another; merely stipulates to convey the property from A to B, if the property of B is destroyed by fire. Hence insurance creates nothing, adds nothing to the stock of public wealth. If this mode of investing capital were abolished, and it would be to a great extent, by incombustibility in buildings, the same capital would be invested in something creative, and thus continually add to national wealth, instead of changing its distribution after the occurrence of destruction.—*Ledger.*

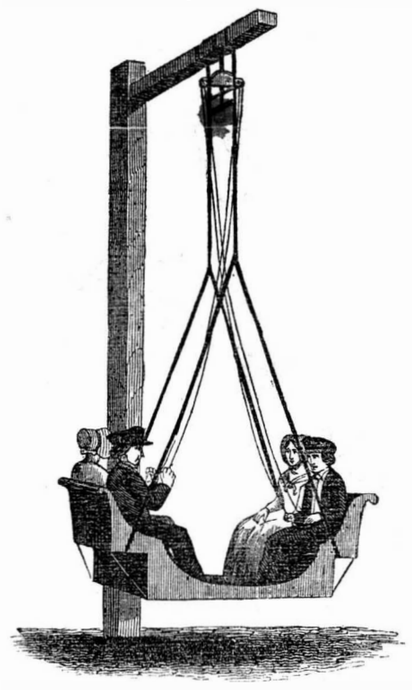
GEN. TAYLOR IN HIS TENT.—A correspondent of the Philadelphia Inquirer, writing from Brazos de Santiago, says: 'On the 26th a friend of mine visited General Taylor, in the camp of Point Isabel, where he had established his depot for stores in the army. On landing, the scene presented was quite a wild one, and reminded one of the accounts we have received of an Arab encampment. There were three or four hundred dragoons in the camp, with their horses picketed about; besides an immense number of wagons, mules and oxen. On stepping ashore, an officer conducted my friend to the General's tent. He was introduced to a very plain, shabbily dressed old gentleman, of rather small stature, about sixty years of age; and who looked, by his hardy appearance, as if he had been camping out all his life. This was the commander-in-chief of the army of occupation. He has been 38 years in service on the frontier of our country. One of his officers remarked that 'old as he was, he bears the fatigues and privations of the campaign better than any one under him.' He was affable, dignified, and in excellent spirits. His tent was no larger and no better than those of the other officers, and his table was his camp chest, in which he carried his cooking utensils, &c. His plates were tin pans, and his cups, (no saucers of course) tin pannikins. A small supply of brown sugar was kept in a tin canister, and not a piece of crockery was to be seen. A party of six was thus entertained in a homely style, and they all seemed to enjoy it abundantly.'

A VERY EXTRAORDINARY PHENOMENON was observed on the line of the Elecrie Telegraph between New York and Baltimore, a few days since, the like of which was never before known to man. Three thunder storms, each some thirty or sixty miles from the other, were all coming east on the Telegraph route about the same time, and every discharge of electricity from either was duly recorded *by the lightning itself*, in the Telegraph office at Jersey city, Philadelphia, Wilmington, or Baltimore. The wires became altogether unmanageable, and the operators being obliged to withdraw the batteries used for writing, the visiter from the clouds had the field to itself. The letters of Morse's Telegraphic alphabet which this natural lightning seemed to be most partial to, were L and T, but occasionally it went at the numerals and dashed off 1's, 50's 55's, 500's, and 5000's, in its own rapid style. We lean that when two or more thunder-clouds get in the same vicinity, and discharge their electricity at each other, or receive the fluid from the earth and return it again, or when ground lightning prevails, the effect on the Telegraph wires is to produce a strange and original language which may yet be made intelligible. In fact, each kind of lightning *speaks* for itself and *writes* what it says.

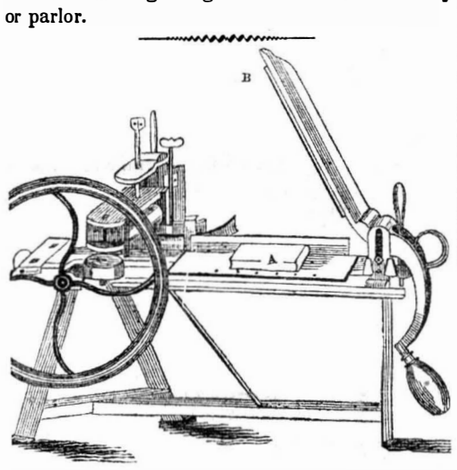
TREMENDOUS LAND SLIDE.—On Thursday the 14th inst., one mile below this city, about one fourth of an acre of land, over which a road was constructed, and on which there were a number of large trees, became detached from the hill side and slipped with a tremendous crash into the river.—there was on the land at the time a two horse carriage—the driver apprehending some unusual disaster from the singular commotion of the earth, became alarmed and made his escape to a more safe retreat. No injury was sustained or damage done to the horses and carriage, though large timbers fell on all sides. This is considered the greatest land slide known in this region, and has since been frequented by hundreds of our fellow citizens as a place of curiosity.—*Steu'ville (O.) Herald.*

## New Inventions.

### Healthy Recreation.



IMPROVED SWING.—The above cut represents a swinging car, invented by Dr. Ross, of this city. The principal improvement in its construction consists in a yoke or cross-bar fixed near the head of thd swing ropes; from each end of this yoke, one or more lines extend down to the car, and are taken hold of by the persons therein;—those on each seat, holding the lines attached to the opposite end of the yoke. By this arrangement, the swingers on opposite seats, pulling these lines alternately, an impetus is given to the car, at the same time producing the agreeable and exhiliarating motion of the swing-cars, and furnishing a healthy exercise to the persons thus engaged. In connection with this subject we may remark that it would be much more conducive to the health and happiness of the world, if more encouragement was given to such modes of recreation among childrea and young people, as are accompanied with wholesome exercise, rather than the dull stagnating amusements of the nursery or parlor.




MACHINE FOR BACKING BOOKS.—This excellent labor-saving machine has been recently exhibited in complete operation in this city by the proprietors, Messrs. Badger and Bates of Boston. This machine rounds and forms the backs, in the process of binding books, in a style far superior to what could be done in the usual process, and each machine will save the labor of at least two men. It is impracticable to show the complete construction of the several parts of the machine in a single engraving, but the above is a fair representation of its general appearance. The machine comprises a horizontal carriage on which one or more books (A) are placed, and are firmly held in place by the descent of the platten B. Then by the turning of a crank, both the carriage and platten are passed under a roller by which the platten is pressed hard on the books, while the backs thereof are also pressed by the concave edge of a moving horizontal sector, which gives them the required form. The invention meets with the universal approbation of book-binders, and several of the machines have been ordered by the principal publishers of this city. The cost of a machine, medium size, is about $100.

PARLOR BEE-HIVES.—Among the fancy inventions recently introduced, is a genteel bee-hive, invented by Mr. J. A. Cutting, of Boston. It is finished in the style of elegant cabinet furniture, and about the size of a bureau, with glass doors in front, through which the operations of the "busy bee" can be observed, while the bees, not intimated by contiguity with equally civil though less industrious society, being furnished with a private entrance through the walls of the house, without being admitted to any other part of the room, pursue their avocation with security.

(Notices of several other New Inventions are unavoidably deferred, but will appear in our next.)

A LIBERAL SENTIMENT.—It appears to be a prevailing sentiment with the 'working men's party' in this city that it is not exactly reasonable to require soldiers to fight for eight dollars a month, while the men who authorise the fighting are allowed eight dollars per day; and especially while the soldier is not to be allowed a foot a land fought for without buying and paying for it. Old John Smith gives as a reason for allowing members of Congress so much higher pay than common soldiers, that the latter are so numerous that Government can not afford to pay them so high wages, as it can to a few individual office holders. Pretty good reasoning that.

THE FUN SECURED.—A young man in Newark, Ohio, was directed to throw into the river a keg of damaged gun-powder; but he being unwilling to destroy so much of the 'means of fun,' commenced burning it in small quantities, when the keg accidentally exploded, burning and mangling him seriously.

## Red.

Red, is a gay, brilliant, and beautiful color, and its use, even in small quantities, has made the fortune of many. there are many kinds of red, however, besides that which has such a peculiar effect on the eye; and many people earnestly desire to be RED but without any regard to color.

A young lady who has recently attained that interesting *teen*, which admits her to gay and fashionable company, takes much satisfaction in being admi-*red.*

A young gentleman will sometimes carry the force and form of expression to what he considers the highest point, by assuring the lady of his partiality, that she is ado-*red.*

An unsuspecting countryman, who, sauntering carelessly through a populous city, stops to view the heaps of shining gold and silver at the window of a lottery office, and is at the same time invited in the most bland and winning manner to walk in, and secure a fortune for a trifle, often finds himself allu-*red.*

The wight who has villany enough to induce him to purloin a trunk, or pocket-book, but has not wit enough to make his escape with his booty, is certain to find himself immediately secu-*red.*

A traveller who walks forty miles a day, on a muddy road, will not hesitate, on arriving at his destination to acknowledge himseld ti-*red.*

When a man is attacked by a mad bull, and tumbled into a ditch, or over a stone wall, he is said to be go-*red.*

A pedagogue, who by dint of untiring perseverance, and the influence of his friends, is promoted to the command of twenty-five small boys and girls, he usually takes such measures as in his opinion, will tend to render himself duly fea-*red.*

When a prisoner is arraigned before a judicial tribunal for some alledged crime, his greatest solicitude is to be clea-*red.*

An invalid, who has suffered a grievous infirmity, for a long time, is most particularly anxious to be cu-*red.*

When a man of wealth has a pressing application to relieve his friend from severe pecuniary embarrassments, his first grand, and principal consideration is, to be effectually secu-*red.*

Many other instances might be added, but we forbear, lest in consequence of carrying out the subject to too great length, our readers might think themselves bo-*red.*

THE BOB-LINK.—Our old friend Robert Lincoln, the celebrated musician, better known by the abbreviation of Bob Link, is on his usual visit, and just now making the reeds, bushes and trees, vocal with his rare and comical melody. We saw one of these 'feathered voluptuaries 'on the topmost bough of an apple tree the other morning, shaking his variegated sides with laughter on seeing a wiley cat stealthily approaching the foot of the tree; and on this occasion he discoursed with unusual animation, "He, he, he,—pretty kit pussey, don't'e come creepy creepy, to catch Bobby Linky: cause Bobby can't stay—can't stay—sees Jenney going shopping-pretty Jenney,—me catch her, me catch her—can't wait pussey—call to-morrow—I'm off, see, see, see" and commencing with a hop four feet perpendicularly, away he darted to join his favorite Jenney, who just then in a dark grey russet morning dress, started from a tuft of high grass on a shopping excursion, when Robert, alive to the duties of gallantry, instantly offered his services, 'wingfully and songfully' and the the air was filled with melody as his song continued, 'Jenny Lincoln, Jenny Lincoln, sweetest, won't you wait for Bobby Link?—satin pants, and summer jacket—not so fast, not so fast; I'll follow round about clover top, alder bush, clock weed, and apple tree:—Bobby Lincoln never suffers Jenny Lincoln gad about alone, weary,—nor go in company with Harry Hassock, Muckle weaver, jolly Pete nor Monsier Michael Mangel Wurtzel."—*Old Paper.*

FRENCH RAIL ROADS.—Several of the great lines of rail road in France are advancing with great rapidity, and portions of them are opened from time to time for use. On the 28th of April, a meeting of the stockholders of the Great Northern Rail Road company was held in Paris, at which Baron James de Rothschild presided. The report of the directors was read by M. Emile, one of that body, from which it appeared that the company had received the first instalment of 125f. on 400,000 shares, making 50,000,000f., together with 473,109f. 59c. for interest. The company had lodged a sum of 20,000,000f. as security with the Government for the repayment of the cost of the works executed by it, which, together with the expenses of organizing the company, amount to 25,768,977f. 96c., leaving a balance in the hands of the banker to the company, of 24,738,834f. 53c. This sum would suffice for the expenses of the company until the course of the year 1847; and would render unnecessary any further call on the shareholders until that period. The two roads from Lille and Valenciennes to the Belgian frontier, which have been for some time in operation in connection with the Belgian rail roads, have been placed under the control of the company since the first of the last month. In the first section of the road, from Paris to Clermont, the double line of rails has been completed. From Clermont to Amiens one line has been completed, as will the other be in six or eight days. The section from Paris to Pontoise is ready for the conveyance of passengers; that from Pontoise to Amiens will be complete by the 15th instant., when the road may be opened to the public. The section from Amiens to Arras may be opened to the public in the beginning of June: and the journey from Paris to Brussels may be effected in 12 hours, and that between Paris and Boulogne in 14 hours 50 minutes. On the 29th the first train on this line Left Paris for Lille, conveying the chief director, M. Emilie Pereire, Baron Maurice Duval, Prefect of the Department of the North, and other functionaries. It was expected that the line would be opened to the public on the 15th inst., but it was not determined with certainty.—*Selected.*

Greater variety next week.

## Religious Sects.

The most potent, not to say rational argument that can be produced by the opponents of the Christian religion, is based on the circumstance that with only one Bible as a foundation guide, there is such an immense number and diversity of religious sects. It is admitted by all Christians that there can be but one true and right faith and theory; yet we find more than one hundred different sects of professed Christians, and many of them more violently opposed to each other, than either of them are to Jews, Deists and other unbelievers.—This being the fact, nothing can be more evident than that a very large majority of all these,—probably nine tenths, and possibly ninety-nine hundredths,—are wrong. But why is this diversity ?—Is it a fact that the Sacred Scriptures are so complicated, crooked or contradictory, that the duty and privileges of men cannot be learned therefrom ?—Far otherwise; and among those who earnestly and sincerely desire a knowlege of the truth, and seek it by close attention to the Scriptures, unbiassed by traditions, or the influence of either churches or individuals, and at the same time, discarding the pride of life and love of the world, there is no such diversity of opinion. They all have the same views, and when they meet, they all speak in accordance with each other's experience, views, and sentiments. But people who suffer a conceited, dignity-loving and money-loving clergy to guide them, though they may entertain much zeal and even piety, can never approach the glorious truth of the Gospel.—And it is an invariable rule, that the more a church wanders from the truth and simplicity of the gospel, the more popular it will become in the world, and the more apposed to those who presume to follow the guidance of the Bible, in preference to the traditions or customs of the churches. And they will, moreover, oppose and revile as fanatics, those who adhere to the precepts and examples of the scriptures, more violently than they do the most profane fanatics who forsake the scriptures to follow a fanatical leader. There has been many real heretics and fanatics in every age of the church; yet even in the most prosperous days of Romanism, such were not so violently opposed by that church as were the Protestants in the days of Luther.—The Calvinists in the time of Bunyan were violently opposed by the popular protestant clergy of England; and afterwards the Wesleyan Methodists were opposed by the Calvinists. Now the Methodists have become popular, and ready to oppose those who strictly adhere to Gospel doctrine, as taught even by Wesley himself while the Swedenborgians, Shakers, or even professed infidels, are but little spoken against by any popular denomination. We purpose, however, according to our original plan of furnishing useful intelligence on various subjects, to explain the principal peculiarities and views of some of the modern sects of those who are esteemed the most deluded and misguided fanatics; and as the several sects called 'Millerites,' have been for some years past, the most troublesome—the Mormons even not excepted,—we shall endeavor to illustrate some of the general principles and arguments of some of the several branches in our next number.

CHRISTIAN RELIGION IN CHINA.—The Emperor of China has issued an edict in which he informs his subjects that he had heard read to him extracts from a book entitled the holy Scriptures, the purport of which appeared to him to be replete with virtuous precepts, and, as such, likely to do good; that it was a book of virtue, and with this conviction, he recommended it to the perusal of his people, and gave them permission to read it, and act agreeably to their own desires.

A GEM.—In an account of a lost child in Missouri, going the newspaper rounds, we find a sentiment; that for a simple expression of that confiding reliance on the Divine care, which should characterize a believer in a Providence, we have never seen surpassed. The little boy narrating the incidents of his wanderings, when night came on says 'it grew very dark, and I asked God to take care of little Johnny, and went to sleep.'

POVERTY.—It is not poverty so much as pretence that harasses a ruined man—the struggle between a proud mind and an empty purse—the keeping up a hollow show that must soon come to an end.—Have the courage to appear poor, and you disarm poverty of its sharpest sting.

STEAM COMMUNICATION WITH FRANCE.—The subject of the establishment of steam packets between France and America has been again brought forward in France, in the form of a report from a Committe of the Chamber of Deputies. This report recommends the immediate adoption of a law for authorizing the Minister of Finances to treat with companies for the establishment of regular communication, either by steam or sailing vessels or both, between France and New York, Havana, Rio Janeiro, Martinique and Guadaloupe, with secondary lines to Mexico, the La Plata, and Laguayra, It proposes that the New York line shall be restricted to steam vessels, and recommends that as the United States are about to establish lines of communication with all parts of Europe, the execution of this enterprise shall be hastened as much as possible. The papers say that this law will pass in the course of the month.—*Selected.*

THE COMMISSIONER'S REPORT.—We should have mentioned in our last number, that we are under special obligations to the Hon. Edmund Burke, Commissioner of Patents, for a copy of his Report for 1846. The Report is voluminous, comprising nearly fourteen hundred pages, and is in many respects superior to any thing of the kind hitherto published.

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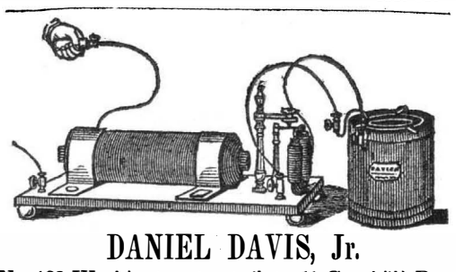

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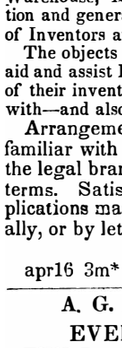
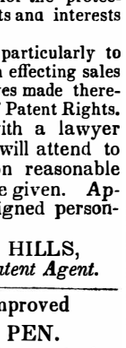


## TEETH.



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jny1

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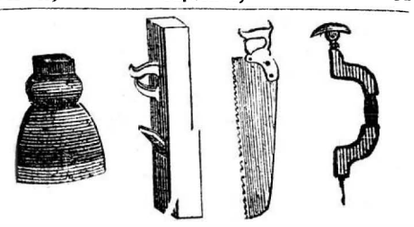

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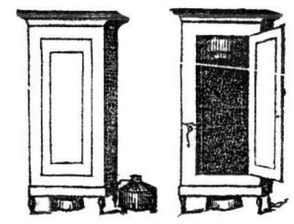

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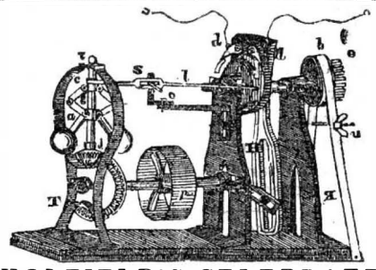

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